Info Pack on Lead in Drinking Water in Australia

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Nominee for the Australian of the Year Awards 1996 and 2016, Info Pack - April 2026

Finally, after at least 33 years of having the same Australian Drinking Water Guideline limit for lead of **0.01mg/L** (0.01 milligrams of lead per litre of water), in June 2025, the lead limit was halved to **0.005mg/L**. See https://www.nhmrc.gov.au/about-us/publications/australian-drinking-water-guidelines

Nevertheless, because The LEAD Group aims for everyone's blood lead level to be below 1µg/dL (1 microgram per decilitre), and that action should be taken to lower blood lead levels of 1ug/dL and over (whereas the Australian government only recommends action be taken for blood lead levels of 5µg/dL and over), The LEAD Group continues to recommend that all drinking water lead results should be less than 0.001mg/L, written as **<0.001mg/L.**

Unlike in the United Kingdom and the USA where lead water pipes were used extensively, I've seen no evidence of lead water pipes being used in Australia. Instead, new brass taps have been found to add lead to the water for between a few months and a handful of years, and the other major culprit is lead in rainwater (from lead roof flashing, lead paint on rooves, leaded brass or rubber in water pumps, etc), which affects mostly rural Australians who depend on rainwater for drinking.

In Australia, to test water and/or dust wipes and ceiling dust, soil or paint, etc, you can purchase a LEAD Group 8-Sample Posted Kit at www.leadsafeworld.com/shop using Paypal or Credit Card. *Drawing credit (tap): Patricia Parkinson*

Before you drink rainwater from your new tank, I recommend you test water from the kitchen tap (a first flush sample and a flushed sample); and use the other 6 samples to test any combination of soil, dust, paint or egg samples. If you want to test water from two or more taps with a

LEAD Group Posted Kit, please add a note in the Shipping Comment: "4 samples will be water" or "6 samples will be water" and also specify how many dust wipe samples you want to test (if any).

Harvey et al *Widespread copper and lead contamination of household drinking water, New South Wales, Australia* (web-published in November 2016 at http://www.sciencedirect.com/science/article/pii/S0013935116303280) recommends a major shift to non-leaded plumbing products in Australia. As one of the co-authors, Professor Mark Taylor, is on The LEAD Group's Technical Advisory Board, The LEAD Group has thus become the prime community advocate for this switch to non-leaded plumbing and non-detectable lead in drinking water.

So, what does The LEAD Group recommend before this policy is taken up by Australian governments, for people wanting to ensure that their drinking water does not contain lead? Firstly, buy a LEAD Group Kit and test two water samples (the first flush and the flushed sample) from each tap that anyone in the family (including pets) drinks from. If your current drinking water returns the two lab results showing non-detectable lead, you can start or keep drinking it!

If your drinking water lead levels are detectable, we recommend you further investigate where the lead is coming from. The lead author of the Harvey et al 2016 research on non-Sydney NSW drinking water, Paul Harvey, who did his doctorate under Professor Taylor at Macquarie University, found that new taps and other plumbing products purchased/installed in the past 5 years can add detectable lead levels to the water. Two LEAD Group Kit purchasers have also found that the cheap Chinese-made pump or the ball valve that their plumber installed, also added huge amounts of lead to the water and the pump had to be replaced with a stainless steel pump before the rainwater was tested again and found to be lead-safe to drink.

If you are buying a new water pump, the best we can recommend is that you buy a stainless steel one made in Germany or the USA – but ALWAYS test the water before drinking it even if you have followed all recommendations on "safe" plumbing products and replaced lead flashing or simply ensured there is only non-lead flashing like Wakaflex by EvoBuild on the rainwater collection area.

2021 Volcano Art Prize (VAP) Entry. Photographer: Jason Fargie. Title: Beware Lead Flashing on Your Roof. Lead-Safety Message: Replace lead flashing with non-lead flashing like Wakaflex, in order to reduce lead in rainwater and stormwater.

https://volcanoartprize.com/portfolio-item/beware-lead-flashing-on-your-roof/

If you are buying new taps and fittings, Paul Harvey recommends stainless steel because all brass and bronze contains some lead. Note that brass and bronze in plumbing pipes made in the USA has been permitted to be labelled as "lead free" if it is limited to less than 0.25%, since 2014 (see the policy: "reducing definition of "lead free" for pipes from 8% to 0.25% by weight effective 2014" in the article by EDF US *Lead Impacts of Policy Data 1971-2016* from www.edf.org/leadpolicytool - published 9th Sept 2016). By comparison, up to 4.0% lead in

brass or bronze is permitted in plumbing products sold in Australia until we move next month, 1st May 2026, to the deceptive labelling of less than 0.25% leaded brass taps as "lead-free". Professor Taylor and I agree that only stainless steel taps should be permitted to be labelled "lead-free".

There are a number of aspects that need to be considered when managing lead in drinking water when the drinking water is from a rainwater tank.

See "*Lead: a modern day problem in plumbed rainwater. Could the pump or ball valve be adding lead to our rainwater?*" as well as "*Drinking water lead contamination flows on*", by Paul Harvey, in LEAD Action News vol 17 no 1 at: https://www.leadsafeworld.com/wp-content/uploads/2016/09/lanv17n1/LANv17n1-Lead-safety-art-awards-in-lead-week-of-action.pdf; and https://www.lead.org.au/lanv17n1/LANv17n1-Lead-safety-art-awards-in-lead-week-of-action.pdf

Sadly, the advice from the Australian federal government (March 2011) only adequately deals with one such lead issue, leaf litter, although it does advise removing or replacing inappropriate materials. Here's their advice:

"Health Hazard: Lead contamination

Cause 1

Lead based paints and primers on roofs

Preventative measure: Do not collect rainwater from roofs painted with products containing high lead concentrations (for example, pre-1970s paint). When painting roof, check suitability with paint retailer.

Cause 2

Uncoated lead flashing on roofs

Preventative measure: Paint existing material or use pre-coated products.

Monitoring: Inspect roof and gutters every six months.

Corrective action: Use coated lead flashing or alternative materials on new roofs. Paint existing uncoated flashing.

Cause 3

Increased corrosion of metals due to low pH from long periods of contact between rainwater and leaves

Preventative measure: Keep gutters clean. Install leaf protection devices on gutters.

Monitoring: Inspect gutters every six months.

Corrective action: Clean gutters. If large amounts of leaves are detected on regular inspections clean more often.

Cause 4

Chemical contaminants from tanks, pipe work, etc

Inappropriate material that does not comply with Australian or Australian/New Zealand

Standards relating to food grade products or products for use in contact with drinking water.

Preventative measure: Use only approved materials.

Monitoring: Check suitability of product with retailer or supplier.

Corrective action: Remove or replace product."

[Ref: http://www.health.gov.au/internet/main/publishing.nsf/Content/0D71DB86E9DA7CF1CA257BF0001CBF2F/$File/enhealth-raintank.pdf ; ACCESSIBLE VIA http://www.health.gov.au/internet/main/publishing.nsf/Content/ohp-enhealth-raintank-cnt.htm

By comparison, the original version of monograph "*Guidance On The Use Of Rainwater Tanks - National Environmental Health Forum Monographs - Water series No. 3 [1998]*": https://web.archive.org/web/20030607105946/http://enhealth.nphp.gov.au/council/pubs/pdf/rainwtr.pdf states:

"As a precaution lead flashing should not be used on those parts of a roof used as a rainwater catchment area. In the case of an existing roof, lead flashing should be replaced if possible."

2012 Volcano Art Prize (VAP) Entry. Photographer: Peter Webb. Title: Lead flashing. Lead-Safety Message: Replace lead on your roof with non-lead flashing / gutters / paint etc before installing a rainwater tank. https://volcanoartprize.com/portfolio-item/pb-2/

The LEAD Group definitely advises this replacement of lead flashing. Additionally, we agree with the advice in the 2011 monograph that lead-headed nails in the rainwater collection roof area should be replaced with plastic washers, but we do not agree that coating lead flashing (or leaving thermo-baked coated lead flashing) or overcoating lead paint on a roof is an adequate management technique – lead flashing should be replaced with non-lead flashing and lead paint should be safely removed or the lead-painted roofing replaced. All paint sold today is non-leaded so any new paint you buy is safe to use. Do not use old paint – it may be leaded (and it may not be labelled as leaded).

Usually the cheapest way to ascertain whether lead may be a problem in the water you have

been drinking is to have a blood lead test (ask the doctor for a blood lead series referral) and if the result is higher than 1 microgram per decilitre, THEN you can test the drinking water for lead, as well as other potential sources of lead such as house dust, soil, paint, ceiling dust, toys, hobbies, work, childcare centre, etc. Of course, if you're trying to completely prevent lead poisoning eg you've just moved in to a home or you're bringing home a newborn, then you would need to test lead in the drinking water as your first step.

The LEAD Group's DIY-sampling lead test kits can be purchased at www.leadsafeworld.com/shop including payment by EFT if preferred. Order the Kit at the online shop and then see our bank account details at https://leadsafeworld.com/direct-bank-transfer/ and email the receipt.

The LEAD Group Kit cost includes a report in which we provide advice on lead management which is sent with the Kit results. Both the 2-Sample Posted Kit and the 8-Sample Posted Kit can be used to test two Water Samples. Please let us know if you buy a Kit to test Water, so that we can include the correct sampling equipment when we post you the Kit. Also let us know if you buy the 8-Sample Kit and need more than two samples to be Water eg you have more than one drinking water tap or more than one rainwater tank.

If you become a LEAD Group Member first, you'll receive a $20 discount off the normal cost of the 2-Sample Posted Kit (all kit costs include laboratory analysis for lead) so you can even send one first flush sample of drinking water to the lab, obtain the result and decide whether you need to do something to lower the lead level in the water, then send the other sample (also a first flush sample) after you have attempted to fix the problem, to see if the water has gone down to an acceptable lead level. Similarly, if you purchase The LEAD Group's 8-Sample Posted Kit (Members receive a $25 discount), you could send samples from, say, each of your rainwater tanks, and perhaps a sample of any roof paint, especially if it is peeling, (or of dust wipes inside the house or soil or ceiling dust, etc) before and after fixing your lead in drinking water / lead in dust problems. For more details and to order a kit online, see https://www.leadsafeworld.com/solutions/lead-group-diy-sampling-lab-analysis-lead-test-kits/

There are several ways to "fix" lead problems in rainwater tanks, mentioned in the article by Dr Neville Gibson, MSc, PhD, called "What to do if you have too much lead in your tank water" (at https://www.lead.org.au/fs/tankwater.pdf) but some of Dr Gibson's solutions would work equally well for non-rainwater or non-tankwater drinking water.

The LEAD Group has also written the factsheet "Lead In Drinking Water In Australia" at https://www.lead.org.au/lanv8n1/l8v1 as well as "Lead-safety for roofers and rainwater users!" at https://www.leadsafeworld.com/solutions/lead-safety-for-roofers-and-rainwater-users/

You will also find a link to Evo Building Products non-lead flashing products (called "Wakaflex") at https://www.leadsafeworld.com.au/partners/lead-free/

Lead free stainless steel potable water plumbing products are available at http://vinco.com.au/product-category/lead-free-bathroom-kitchen-tapware/?term_id=70

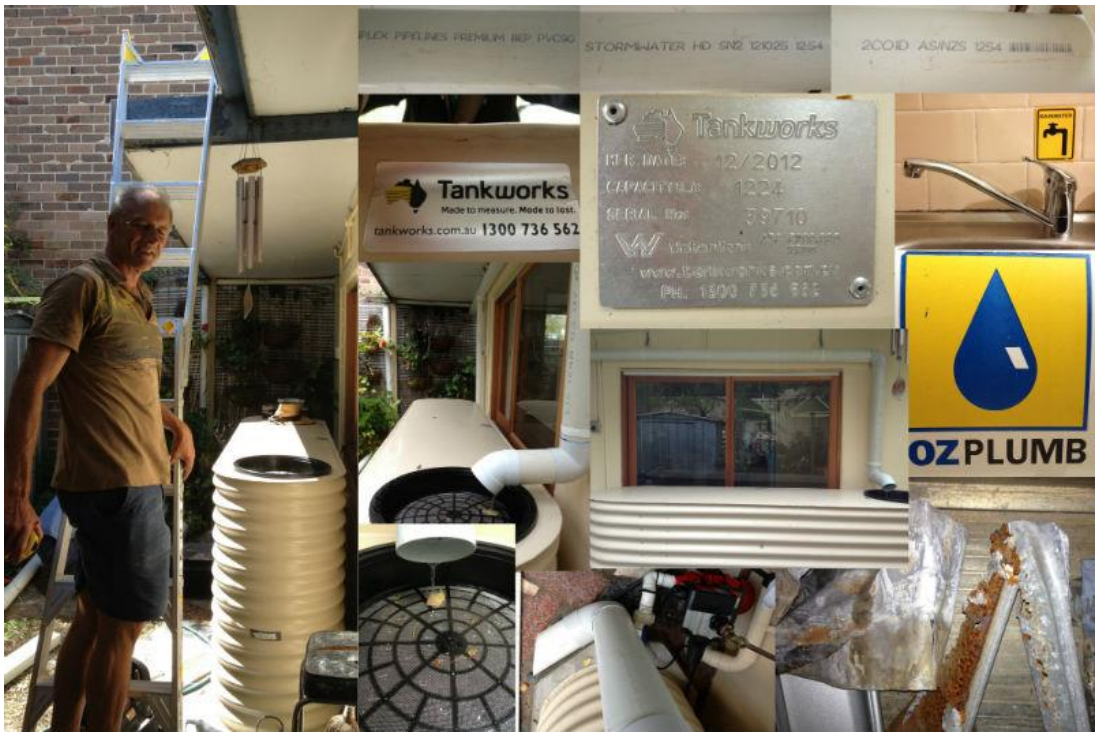
You can check out the Vinco Stainless Steel tapware at http://vinco.com.au/product-category/lead-free-bathroom-kitchen-tapware/?term_id=70 and contact them via sales@vinco.com.au or (02)95174800 to find out where to purchase.

It turns out Reece Plumbing only has brass taps by Nicolazzi (made in Italy) on their website, but https://www.reece.com.au/assets/brands/155000/Teknobili-Nobili-Tapware-Mixers-Brochure-V20.pdf says two kitchen sink mixer taps made by Nobili (in Italy) are "also available in stainless steel".

LEAD Action News vol 17 no 2 contains articles on lead-free Vinco full stainless steel tapware and lead free PVC pipeware etc. See https://www.leadsafeworld.com/wp-content/uploads/2016/11/LANv17n2-VAP-Awards-ILPPWA-Lead-Poisoning-Stuttering.pdf AND https://www.lead.org.au/lanv17n2/LANv17n2-VAP-Awards-ILPPWA-Lead-Poisoning-Stuttering.pdf

And lead may not be the only tankwater problem that needs fixing. You may wish to refer to:

"Guidance On The Use Of Rainwater Tanks - National Environmental Health Forum Monographs - Water series No. 3" [2011] or Information on the health department website (as above).



2013 Volcano Art Prize (VAP) Entry: Collage artist: Jongmin Choi. Lead-Safety Message: To achieve lead-free rainwater for drinking, employ the right plumber to remove lead from the roof, and install a first flush diverter and lead-free potable-water-safe flashing, piping, tank, pump etc. https://volcanoartprize.com/portfolio-item/504/